

CLAIMS:

1. An air suspension system for a vehicle having a chassis, a front axle housing and a rear axle housing; said system  
5 comprising;

a) an elongated torque arm having a forward end, an intermediate section and a rear end; the forward end of said torque arm being pivotally mounted to said chassis, said intermediate section being mounted over said rear axle housing ,  
10 and the rear end of said torque arm extending rearwardly of said rear axle housing;

b) a shackle assembly mounted on said rear end of said torque arm;

c) an elongated lever arm having a forward end, an intermediate section and a rear end, said lever arm having its rear end pivotably mounted to said chassis;  
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d) said shackle assembly supporting said forward end of said lever arm; and

e) an air spring mounted on said intermediate section of said lever arm between said lever arm and said chassis to provide load support to said chassis.  
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2. An air suspension system for a vehicle having a chassis and front and rear axle housings, said system comprising,

a) an elongated torque arm having a forward end, an intermediate section and a rear end;  
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b) means for pivotably mounting the forward end of said torque arm to said chassis;

c) means for fixedly mounting the intermediate section of said torque arm on said rear axle housing,

5 d) said rear end of said torque arm extending rearwardly of said rear axle housing;

e) a shackle assembly mounted to the rear end of said torque arm and extending downwardly from said torque arm;

10 f) an elongated lever arm having a forward end, an intermediate section and a rear end;

g) a bracket for pivotably mounting the rear end of said lever arm to said chassis;

h) said shackle assembly supporting said forward end of said lever arm ; and

15 I) an air spring mounted on said intermediate section of said lever arm between said lever arm and said chassis to provide load support to said chassis.

20 3. An air suspension system for a vehicle having a chassis a front axle and one rear axle and an associated axle housing; said system comprising;

a) an elongated torque arm having a forward end, an intermediate section and a rear end; the forward end of said torque arm being pivotally mounted to said chassis, the  
25 intermediate section of said torque arm being mounted on said rear axle, and the rear end of said torque arm extending

rearwardly of said rear axle;

b) an elongated lever arm having a forward end, an intermediate section and rear end, said lever arm having its rear end pivotably mounted to said chassis;

5 c) a shackle assembly including a hanger bracket that mounts on the rear end of said torque arm in a position rearward and adjacent said axle, and said shackle assembly including a first bushing and legs that support the forward end of said lever arm, said legs being mounted on said bushing and can articulate  
10 on said bushing; and

d) an air spring mounted on a section of said intermediate section of said lever arm between said lever arm and said chassis to provide load support to said chassis.

15 5. An air suspension system as in claim 1 wherein said shackle assembly is mounted at a spaced distance from said rear end of said torque arm.

20 6. An air suspension system as in claim 5 wherein said distance is two to four inches from said rear end.

7. An air suspension as in claim 1 wherein the front end of said lever arm has a C-shaped loop that contacts said shackle assembly.

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8. An air suspension system as in claim 1 wherein the

front end of said lever arm as a an O-shaped loop or eye that  
contacts said shackle assembly.

9. As air suspension system as in claim 1 wherein shackle  
assembly includes a first bushing for enabling articulation of  
the shackle assembly relative to said torque arm, and wherein  
said shackle includes a second bushing for enabling articulation  
of said lever arm relative to said shackle assembly.

10. An air suspension system as in claim 1 wherein said  
shackle assembly enables a double articulation action.